Speaking Globally

Move over Mr. Bell, Make Room for Mobile Access

by the Office of Telecommunications Industries, Trade Development

U.S. telecommunications equipment and service providers have traditionally been very competitive in the world market. The boom in the global telecommunications market in the 1990s was in part attributed to the realization of the fundamental role of telecommunications in the operations of businesses and in promoting the economic stability of countries. A significant impetus to developing viable networks is the growing trend of privatization and liberalization over the last two decades. However, excess capacity stemming from a buying binge in the late 1990s and in 2000, and inflated estimates of consumer demand have plagued the global telecommunications market since early 2001. Market forces have led to global rationalization and restructuring characterized by significant downsizing and consolidation. Although difficult market conditions are persisting well into 2003, several factors suggest that there will be an upturn in the industry by the second half of 2003. These factors include the fundamental role of telecommunications, the restructuring that has occurred, as well as continued liberalization and privatization in foreign markets.

OUTLOOK

At Supercomm, the industry's largest annual conference, held in Atlanta in June 2003, the Telecommunications Industry Association (TIA) forecast that the global telecommunications industry would see a 9-percent increase in compound annual growth between 2003 and 2006. The sectors that TIA believes will do particularly well in the next few years include enterprise services, wireless services, and broadband. In its annual *Market Review and Forecast,* TIA predicts that overall telecommunications spending in the United States will jump 8 percent in 2003, compared with a 3.5-percent increase in 2002. Total U.S. telecommunications market spending is expected to reach $763 billion this year and $963 billion by the end of 2006. In the wireless communications sector, spending is expected to grow by 8.3 percent in 2003, to $123.4 billion, and continue to grow at 9.6 percent annually through 2006, reaching $164.5 billion. The number of wireless Internet users in the United States is anticipated to rise to 64 million by 2006, while the number of high-speed wired Internet subscribers is expected to triple, from 15 million in 2002, to more than 40 million in 2006.

At Supercomm, several industry leaders addressed the outlook for the industry. For example, Bell South CEO Duane Ackerman appealed for changes that would lead to a resumption of capital flows into this capital-intensive industry. Ackerman believes further consolidation is needed to solve overcapacity problems, and that bringing capacity in line with market levels will lead to lower costs and will create an environment in which investors will regain confidence in the sector. Equipment manufacturer Nortel believes that perhaps the most vital lesson learned over the last several years is that companies must ultimately have viable business models for the services they are providing and the networks they are building. Companies cannot ignore those models and invest speculatively in networks assuming that a return will eventually appear; they must proceed in parallel to be successful.

WIRELESS TECHNOLOGY

There seems to be a consensus that the wireless segment of the industry, including wireless LANs, is a bright spot. For example, technology research firm Gartner, Inc., recently reported that the worldwide mobile phone industry exceeded expectations in the first quarter of 2003, rising 18 percent compared with the same period a year ago. This is largely attributed to robust demand for replacement devices, with significant demand recorded across all regions. Global wireless subscribers surpassed 1.1 billion at the end of 2002. Leading handset manufacturer Nokia estimates that wireless handset sales will increase by approximately 10 percent in 2003, to 445 million units, and that the total number of wireless subscribers will reach 1.6 billion by the end of 2005. Although commercialization of many third generation, or 3G, wireless networks in Europe and Asia has been postponed due to a variety of technical and marketing issues, there has been a wave of announcements in the last several months that projects are moving

forward. Interestingly, many 3G licensees that had signed letters of intent with vendors several years ago are now renegotiating or rebidding those contracts now that prices are lower. As a result, Lucent Technologies secured a contract with mm02, a leading European wireless service-provider, for networks in several European countries.

WIRELESS NETWORKS

Wireless LANs (local area networks), also known as "Wi-Fi," or "hotspots," are both complementary and competitive with next-generation wireless systems. The technology is relatively simple and cheap to deploy, and is capable of transmitting data at far higher speeds than current wireless networks. The momentum around Wi-Fi continues to grow, with a recent surge in operators deploying Wi-Fi networks. The challenge for cellular carriers moving to deploy 3G wireless networks that offer high-speed Internet services is that they usually make most of their money from heavily used parts of their networks—usually in city centers, exactly where Wi-Fi providers are deploying their services. Cellular networks currently have two advantages—ubiquity and mobility. Wi-Fi networks do not typically work when users are in motion (driving, for example). However, innovations in Wi-Fi technology also are occurring at an impressive pace. For example, new products have been developed for wireless billing and receipt printing by commercial businesses and retail outlets. These products will enable small businesses to easily and cost-effectively install hotspot access points for wireless connectivity and tie multiple Wi-Fi access points together into workable systems with authentication, billing, pre- and post-paid billing, and credit card management. Many other countries are watching developments in the United States with great interest.

Many wireless operators in the United States are recognizing the advantages of using public Wi-Fi access to complement their wireless data offerings and see hotspots as an immediate revenue generator for data service. For example, T-Mobile, a nationwide wireless operator in the United States, has been promoting Wi-Fi access through Starbucks. Verizon Wireless is converting payphones in New York City to wireless hotspots. In Europe, the European Commission is calling for a simplification of EU regulations governing wireless LANs in order to promote the proliferation of hotspot services to further the Information Society initiative by increasing the availability of broadband services. The European Commission has recommended lifting country-specific restrictions on wireless LANs and introducing an EU-wide general license. The next step toward large-scale hotspot deployment will be to harmonize spectrum allocation for wireless LANs, expected following the World Radiocommunications Conference 2003, which took place in June. Several 3G operators in Europe are now adopting hotspots to complement 2.5G and future 3G services. For example, pan-European operators T-Mobile, Orange, mmO2, and Vodafone are all deploying hotspots in one or more of their markets. The use of Wi-Fi wireless access to the Internet is also growing rapidly in Asia, where there are about 10,000 hotspots. Globally, Wi-Fi equipment and support services are expected to reach $4 billion in revenue by 2008, according to a recent report by Telecom Trends International. The report also forecasts that revenue will grow at a compound annual growth rate of 18 percent through 2008.

TELECOMMUNICATIONS EQUIPMENT TRADE

In 2002, the United States registered a record deficit in telecommunications equipment trade. The deficit in 2002 of $14.1 billion was up sharply from $9.7 billion in 2001, reflecting the continuing downturn in demand both in the United States and abroad since 1999. Exports of U.S. telecommunications equipment declined by 28 percent to $14.5 billion in 2002, down from $20.2 billion in 2001. Imports of telecommunications equipment fell 4.5 percent, from $30 billion in 2001 to $28.6 billion in 2002.

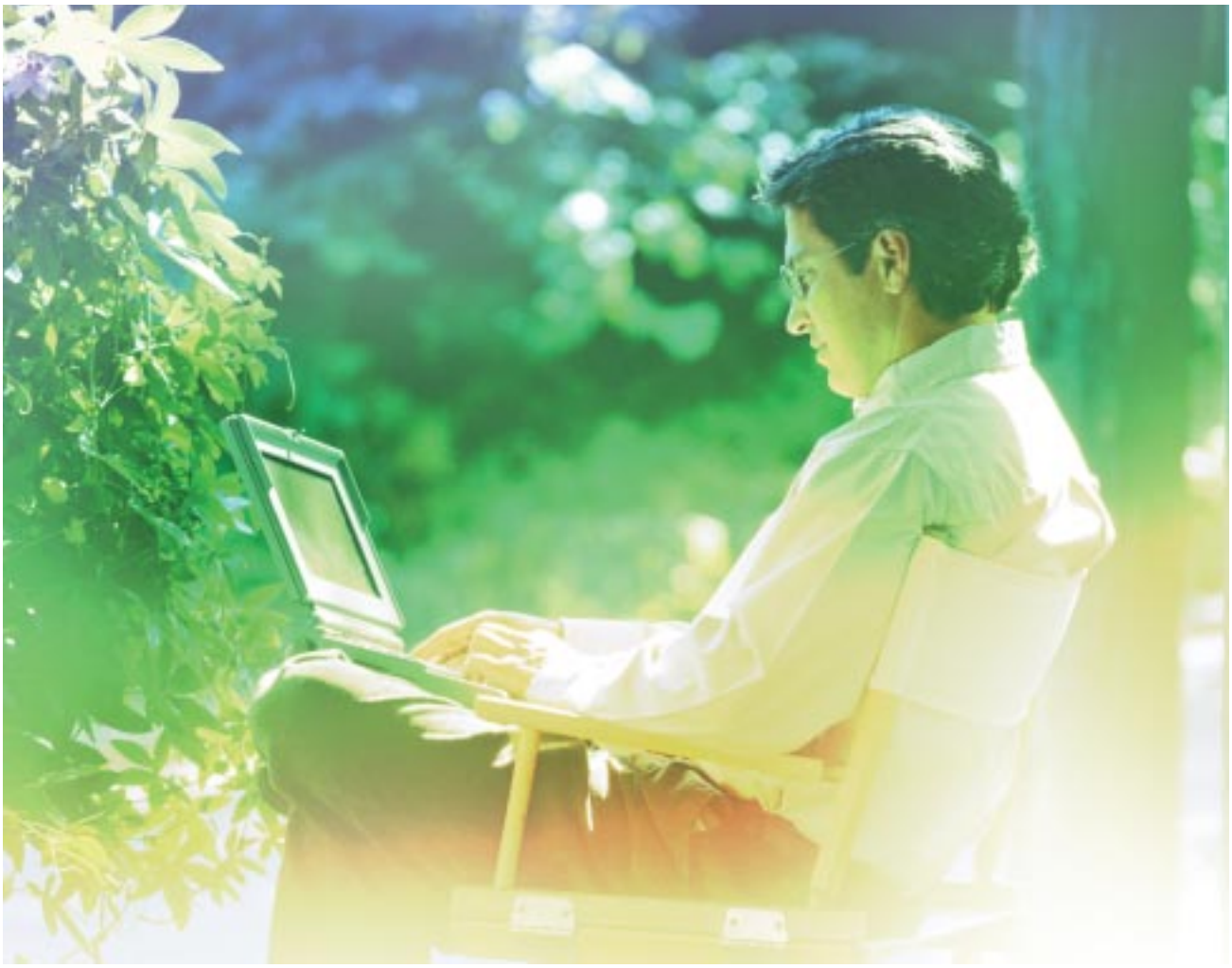
The largest export markets were Canada, Mexico, Japan, the Netherlands, China, and the United Kingdom, although exports declined to virtually every country in 2002. By region, Asia surpassed the European Union and Latin America with $4.2 billion, $3.5 billion, and $3.3 billion in U.S. exports, respectively. Equipment exporters enjoyed steady growth throughout the 1990s (with the exception of 1998). However, imports also began to increase, finally surpassing exports in 1999, as manufacturing of low-end, customer-owned equipment shifted to Asian suppliers. For example, cellular phones accounted for the largest telecommunications import category, reaching $9.5 billion in 2002.

LEADING FOREIGN MARKETS

China

China has been the fastest-growing telecommunications market in the world in the past few years, even as the global market for telecommunications products has been slumping. In January 2003, China's Ministry of Information Industry (MII) reported that capital expenditures on telecommunications equipment amounted to $25.5 billion in 2002, and predicted that expenditures would amount to $25.4 billion in 2003.

Despite the projected slowdown in 2003, MII reported in May that capital expenditures on telecommunications equipment in the first quarter of 2003 actually increased 13.5 percent compared with the first quarter of 2002. MII said that China added 11.4 million new wireline subscribers and 15.5 million wireless subscribers in the first quarter of 2003. China already had the world's largest number of both wireline and wireless subscribers, with 214.4 million wireline subscribers and 206.6 mobile subscribers at the end of 2002.



At the end of 2002, China also had a telephone penetration ratio (telephone lines per 100 people) of approximately 16 percent for wireline and 15.5 percent for wireless, although these figures can be misleading since teledensity rates tend to be much higher in urban areas of China and significantly lower in rural areas. There is also a disparity between the more densely populated eastern part of the country and the less densely populated western provinces.

China's telecommunications equipment market has exhibited strong growth despite a pause in capital spending associated with a major restructuring of the telecommunications market in 2002. The Chinese government ordered the country's dominant telecommunications service provider, China Telecom, to be divided into two separate entities, and the uncertainties caused by the terms of the separation led the company to suspend major capital outlays. Now that the restructuring has been completed, it is expected that the two "new" carriers will accelerate their capital investment spending to compete in each other's territory.

Although travel has been curtailed and several trade events have been postponed or canceled, it is not yet clear what effect the SARS outbreak will have on overall capital expenditures in the telecommunications sector in 2003. Most industry analysts have predicted that, if SARS is brought under control by July or August, the disruption will be minimal.

While China offers tremendous market opportunities to U.S. exporters, it also presents some serious challenges. For many years, the Chinese government has maintained economic, political, and national security policies designed to promote the development of an indigenous telecommunications manufacturing industry and minimize the reliance on foreign vendors.

Foreign companies that wanted to sell telecommunications equipment in China were usually obliged to form joint ventures with Chinese partners, transfer technology, and comply with a variety of other regulations governing domestic content, currency controls, export performance, and standards. In its WTO accession commitments, China pledged to eliminate many of these policies, but the effects of the policies are likely to linger even after the regulations disappear.

U.S. companies seeking to do business in China may still find it advantageous to have an experienced local partner to enter the Chinese marketplace. Companies should be thorough in their due diligence, and pay careful attention to protecting their intellectual property.

The best opportunities for U.S. telecommunications equipment companies interested in exporting to China are likely to be in advanced networking and wireless technologies. Some of the best opportunities for foreign suppliers are likely to be in emerging technologies like 3G wireless, broadband wireless applications like Wi-Fi, and cost-effective solutions for rural service delivery.

China's telecommunications equipment market is characterized by rapid growth, intense competition, and a multitude of complex, multilayered, political and economic factors that must be carefully and successfully evaluated in order to achieve success.

India

With the announcement of a telecommunications policy in 1994, India took its first significant steps to liberalize its telecommunications services market. Unfortunately, for a variety of reasons, large-scale foreign investments were not realized, and private sector participation in the market did not develop as anticipated. Seeking to address many of the unresolved problems in the sector, a new telecommunications policy was set forth in 1999 that has been implemented more successfully. In the past two to three years, however, the pace of reforms has quickened, and the growth of the industry has been impressive. The value of India's telecommunications equipment market is estimated at $3.5 billion. Indian consumers have greatly benefited as rates for domestic and international calls have dropped while competition has spread to all sectors of the market. U.S. telecommunications firms should take a fresh look at the Indian market and the commercial opportunities now available.

India's wireless communications market has become a big success story. The number of cellular subscribers is growing 85 percent annually and is approaching 15 million. Over the next five years, the total number of global system for mobile communications (GSM) subscribers may reach 100 million. Leading wireless manufacturers plan to leverage India's IT capabilities to create software applications for such new technologies as general packet radio service (GPRS) and enhanced data rate for GSM evolution (EDGE). Some companies are installing code division multiple access (CDMA) technology to support wireless local-loop services, and at least one company intends to offer time division multiple access (TDMA)-based voice and data services in some rural and semi-urban areas of the country this summer.

India's teledensity reached 5 percent earlier this year, still one of the lowest rates for a major country. The government has set a goal to reach a national 7-percent rate (75 million access lines) by 2005 and 15 percent (150 million access lines) by 2010. The government-owned fixed line provider, BSNL, will shoulder a large responsibility in meeting these targets, particularly in meeting infrastructure development commitments in India's 660,000 villages, many of which still lack direct access to the communications network. There also are alternative communications networks being developed by the railway, the power grid and the gas authority of India, although none is viable as an existing alternative nationwide network. Two private companies (Reliance and Bharti) are working on a national broadband network connecting 115 cities and a 25,000-meter fiber network, respectively.

Issues involving telecommunications will also be a part of the agenda for the High Technology Cooperation Group (HTCG) established by the United States and India in November 2002. The HTCG will serve as a framework for the discussion of issues related to bilateral high-technology commerce, such as dual-use export control issues and Indian barriers to high-tech trade. The HTCG is coordinating a forum on financing innovation on July 1 in Washington, D.C., at which U.S. and Indian private sector representatives will discuss investment and venture finance in India. The first full meeting of the government-to-government portion of the HTCG will take place on July 2.

European Union

The telecommunications market in the European Union is the second largest in the world, after North America. Despite considerable turbulence in this sector, the EU market for telecommunications services has been more resistant to the global economic downturn than it has been for the information technology sector. The value of the EU market for telecommunications services was $238 billion in 2002, and it is expected to increase at the same 5-percent rate in 2003 as it did during 2002. This growth is driven primarily by efforts of the European Union to catch up with the United States in Internet protocol applications and Internet deployment, especially using broadband access technologies like asymmetrical digital subscriber line (ADSL), and to maintain the EU lead in mobile communications. However, the value of the EU market for telecommunications equipment decreased by 9 percent in 2002, to $54 billion, and it is expected to remain at the same level in 2003. The unusually sharp decline in 2002 was primarily due to a 27-percent decrease in cellular operators' expenditures on infrastructure, which is expected to increase by 4 percent in 2003.

A report on the European market for telecommunications, information technology, and electronic commerce, highlighting the Italian and Spanish markets, will soon be published and

available at www.export.gov/infotech. Italy has the third-largest market for telecommunications services in the European Union, valued at $33 billion in 2002, and it is expected to grow by 3 percent in 2003. This growth is paced by Internet and on-line services, the value of which is expected to increase by 36 percent in 2003, to a level of $2 billion, due primarily to accelerating broadband penetration, which currently stands at only 1.6 percent of households. Italy has the fourth-largest telecommunications equipment market in the European Union, valued at $7 billion in 2002, and it is expected to grow by 1.4 percent in 2003, due primarily to a resumption in expenditures on cellular infrastructure.

Spain has the fifth-largest market for telecommunications services in the European Union, valued at $19 billion in 2002, and expected to grow by 5 percent in 2003. This growth is paced by 31-percent growth in the value of Internet and on-line services and 23-percent growth in the value of switched data and leased line services. Although Spain already has broadband Internet access in 3 percent of households, the highest in the European Union after Germany, Internet services continue to be the fastest-growing telecommunications service in Spain. The value of the Spanish market for telecommunications equipment was $4.4 billion in 2002, and it is expected to decrease by less than 1 percent in 2003, due primarily to a decline in sales of cellular phones.

The European Union has reached a turning point in mobile communications, because the EU mobile penetration rate per capita has reached 77 percent. With a mobile penetration rate of 92 percent, Italy demonstrates the trend in Europe, where mobile operators are shifting their focus from increasing market share to maximizing revenue. As throughout the European Union, Italian mobile operators are now innovating with data communications applications, such as messaging and Internet access over existing GSM networks that are enabled by GPRS technology. GPRS is known as a 2.5G wireless technology because it enables faster transmission speeds, while still falling short of the speeds possible using 3G wireless technology. Meanwhile, 3G wireless was launched in Italy and the United Kingdom by the subsidiaries of Hutchison Whampoa, Hong Kong, during the first quarter of 2003. The three incumbent Italian mobile operators are expected to launch 3G wireless services by 2004. The *ExportIT* report highlighting Spain and Italy is part of a series posted on the Web site of the ITA Information Technologies Division (www.export.gov/infotech), where a similar report highlighting Germany and France is already posted.

Mexico

With a population of more than 100 million, Mexico has considerable opportunities for growth in the telecommunications equipment and services markets. Privatization and pro-competitive measures first announced in 1989 significantly pared back the Mexican government's role in the telecommunications sector. Many of these measures were codified in the federal telecommunications law of 1995. The law allowed new entrants into the market to compete with the former state-run monopoly telecommunications provider, Telefonos de Mexico, or Telmex. The law opened up every telecommunications service to competition, allowed higher levels of foreign participation, and mandated interconnection and transparent, non-discriminatory processes for licensing.

Despite numerous advances made on paper, the regulatory environment in Mexico remains a drag on the telecommunications sector. In the late 1990s, the Mexican government moved haltingly to implement competitive measures and, despite commitments from the Fox administration, regulators from the Comisión Federal de Telecomunicaciones (Coftel), have taken few steps over the past years to

U.S. Government Resources

The International Trade Administration's industry, export, and financing specialists, both in Washington, D.C., and the U.S. Export Assistance Center network across the United States, are key resources for American telecommunications firms as they evaluate projects and markets abroad. The following is a sample of the services offered to U.S. firms.

The ITA **Office of Telecommunications Technologies**, (202) 482-4466, monitors and evaluates global market conditions, participates in international market-opening negotiations, and provides links to industry specialists at U.S. Commercial Service offices worldwide (www.export.gov/infotech). Several market research tools are available on this Web site, including a series of *ExportIT* reports and "Telecom and IT Trends Mexico 2004," which is a group of frequently updated market reports and opportunities for Mexico.

U.S. Commercial Service offices at U.S. embassies worldwide can evaluate prospective local partners, markets, and projects; arrange meetings with key foreign officials and executives; and research local sources of funding (www.buyusa.gov).

U.S. Export Assistance Center specialists provide export counseling and information on federal export promotion programs and services, identify export regulations affecting U.S. industry, coordinate with finance specialists in Washington, D.C., and in embassies worldwide, and help U.S. firms identify projects of interest through market research reports prepared by Commercial Service posts around the world.

Specialists at the **Advocacy Center**, (202) 482-3896, arrange high-level advocacy on behalf of U.S. firms that face formal or informal trade barriers or arbitrary government decisions abroad (www.export.gov/advocacy).

Additional information on markets and projects abroad, export requirements, and U.S. government export assistance programs can be found at www.export.gov, as well as individual U.S. embassy Web sites.

rein in Telmex. Industry observers note that most Cofetel officials have not taken public positions against Telmex or attempted to use regulatory tools at their disposal. Even when, in late 2000, Cofetel found Telmex to be in violation of certain requirements outlined in the existing regulations, Telmex challenged the regulator's authority in court and won an indefinite suspension of Cofetel's asymmetric regulations.

Mexico's Congress has been debating an updated telecommunications act for the last two years. Discussions have stalled on some of the more divisive proposals, such as increasing the autonomy of Cofetel and establishing and enforcing dominant carrier regulations on Telmex. The national election scheduled for July 2003 is significant, as Mexico's one-term limit means that all seats in the Chamber of Deputies will be filled with new legislators. What impact will all of this have on telecommunications reform? Most industry analysts predict the Mexican Congress will have trouble passing anything of substance in 2003.

Despite the regulatory and commercial challenges, the Mexican telecommunications market has great potential for growth. Cofetel reported that at the end of 2002, fixed-line penetration was 14.6 percent, and mobile density reached 25 percent. In 2002, mobile operators added 3.8 million subscribers, increasing the total to 25.4 million, up 18 percent from 21.6 million in 2001. Rapid growth in the wireless market is expected during the coming year as competition heats up and operators consolidate their holdings in the market. In addition to targeting lower income segments of the population with prepaid and calling party pays plans, wireless operators are expected to target corporate segments with high-end, high-tech applications as the development of advanced technology spurs the introduction of new mobile services.

The service with the greatest growth potential in the next several years will likely be data communications, as corporate customers' data transmission requirements become increasingly crucial to the bottom line. This should increase demand for bundled packages of services and spur investment in end-to-end technologies that enhance the competitiveness of new entrants' offerings.

In 2002, Mexico ranked as the third-largest importer of telecommunications equipment from the United States

(behind Canada and Japan). Demand is expected to increase as both residential and corporate clients drive operators to upgrade their networks in order to take advantage of higher speed technologies that maximize the potential of the Internet. Mobile network development will most likely offer the greatest opportunities for equipment vendors. For example, the dominant player Telcel has invested in an upgrade to GSM/GPRS technologies. In addition, the government's "e-Mexico" initiative to promote digital connectivity in rural areas will offer numerous procurement opportunities as well.

TRADE NEGOTIATIONS

For the past 15 years, the United States has been actively engaged in trade negotiations affecting telecommunications equipment and services. In the North American Free Trade Agreement with Canada and Mexico, ground rules were set for access to telecommunications networks, the provision of value-added services, and the adoption of telecommunications standards.

The new round of WTO services negotiations, known as the Doha development agenda, includes telecommunications services. The round began in 2000, and it is scheduled to conclude by the end of 2004. Last summer, the United States made formal requests of more than 100 WTO member countries. It asked trading partners to remove all existing market access and national treatment barriers or limitations, for all telecommunications services (basic and value-added), as well as to adopt, if not already done so, a wide range regulatory principles set forth in WTO negotiations over the last several years. Negotiating sessions will be held in Geneva every two or three months until the conclusion of the Doha round.

More recently, the United States has concluded free trade agreements (FTAs) with Jordan, Chile, and Singapore. Each agreement includes a section that promotes liberalization of the telecommunications sector. Currently, the United States is actively negotiating FTAs with a number of countries. Each will promote greater market access for U.S. products and services and seek to ensure fair and non-discriminatory treatment for all market participants while promoting a transparent regulatory process. Negotiations for a Free Trade Area of the Americas among 34 nations in the Western Hemisphere began at the Summit of the Americas in 1994, and the goal is to complete negotiations for the elimination of barriers to trade and investment by January 2005. Meanwhile, the Central America Free Trade Agreement would include the United States, Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua; it may be completed early next year. Negotiations for a free trade agreement between the United States and the Southern African Customs Union (Botswana, Lesotho, Namibia, South Africa, and Swaziland) began in June 2003. Negotiations for FTAs with Morocco and Australia also began in 2003, with hopes of completion by mid-2004.

These multilateral and bilateral FTAs are negotiated to enhance trade and investment flows by providing lower tariffs for exports of goods, easier customs procedures, improved market access for various commercial and professional services, easier entry for U.S. businessmen into other countries, and better terms for investment in foreign countries. FTAs create a framework for businesses to prosper globally, which in turn encourages stability and expansion of economies.

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Major Exhibitions and Conferences

ITU TELECOM WORLD 2003

October 12–18, 2003
Geneva, Switzerland

This quadrennial event sponsored by the International Telecommunication Union is the largest telecommunications trade exhibition and conference in the world, typically attracting over 1,000 exhibitors and close to 200,000 attendees, including service providers and operators, governments, and leaders in manufacturing and industry. The event covers the entire converging communications industry, from telecommunications and computers to broadcasting and Internet applications.
www.itu.int/world2003

PT/WIRELESS AND NETWORKS COMM CHINA 2003

November 12–16, 2003
Beijing, China

This trade show focuses on wireless and next generation technologies.
www.adsale.com.hk/aes/en/shows

EXPO COMM CHINA SOUTH 2003

November 18–21, 2003
Guangzhou, China

This is the leading event for telecommunications, networking, IT, enterprise networking, and wireless technology in southern China.
www.ejkrause.com/events/5903.html

EXPO COMM MEXICO 2004

February 10–13, 2004
Mexico City, Mexico

The U.S. Department of Commerce encourages U.S. companies interested in developing telecommunications opportunities in Mexico to participate in the USA pavilion and product literature center at this certified trade event.

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